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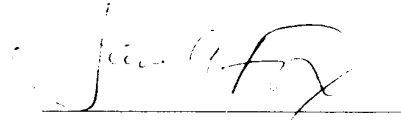
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Examining Attorney: Michael P. Mooney

Attorney Docket No.: 25916-118 (6136-53461)

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Respectfully submitted,

A handwritten signature in dark ink, appearing to read "James Fox", written over a horizontal line.

James Fox

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**MARKED-UP VERSION**

**IN THE CLAIMS:**

Claim 1 has been amended as follows:

1. (Amended) A substrate having a optical and electrical interconnections, comprising:
  - a first layer having a first polymeric waveguide[s] formed therein;
  - a second layer having a second polymeric waveguide[s] formed therein;
  - a first vertical optical coupler formed in said first layer and optically coupled to a first waveguide in said first layer;
  - a second vertical optical coupler formed in said second layer and optically coupled to a second waveguide in said layer;
  - wherein said first optical coupler is positioned adjacent said second vertical optical coupler so that light may be coupled between said first and said second waveguides.
  
4. (Amended) The main substrate of Claim 1 further comprising:
  - at least one additional layer having a third polymeric waveguide[s] formed therein;
  - an additional vertical optical coupler formed in said at least one additional layer and optically coupled to a waveguide in said at least one additional layer;
  - wherein said layers are stacked face-to-face and are optically coupled by said vertical optical couplers.